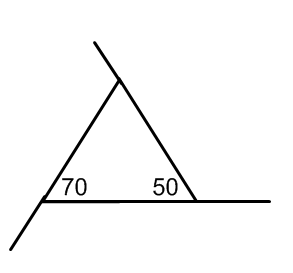
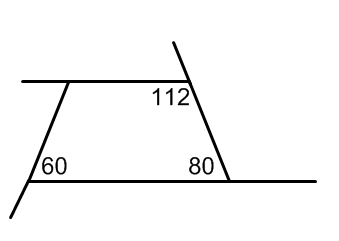
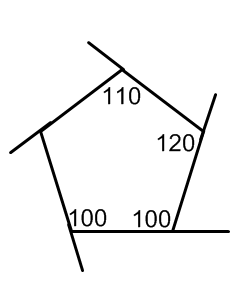
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**4.7 Interior and Exterior Angles of a Polygon**

FORMULA - sum of interior angles of any polygon:

DEFINITION - exterior angle:

Find the sum of the exterior angles:

The sum of the exterior angles of a polygon is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Find the sum of the interior angles and the sum of the exterior angles of an octagon.

2. The sum of the interior angles of a polygon is 540°. Name the polygon.

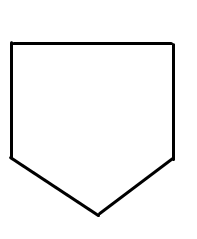
3. In pentagon ABCDE, mA = 110, mB = 120, mC = 130, and mD = mE. Find the

measure of the exterior angle at E.

4. The exterior angles of a quadrilateral are in the ratio 2:2:3:5. Find the measure of the

largest interior angle of the quadrilateral.

5. A baseball diamond’s home plate has three right angles. The other two angles are congruent. Find the measure of the two congruent angles.



6. Four of the angles of a pentagon have measures 40, 80, 115, and 165. Find the measure of the fifth angle.

3. In quadrilateral ABCD, mA = x, mB = 2x, mC = 3x, and mD = 4x. Find the value of x, and then state which pair of sides of ABCD must be parallel.

4. In pentagon PQRST, mP = 60, and mQ = 130. S and T are each three times as large as R. Find the measures of each of the missing angles, and then determine which pair of sides of PQRST must be parallel.